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STATE OF MISSOURI
Bob Holden, Governor • Stephen M. Mahfood, Director
DEPARTMENT OF NATURAL RESOURCES
www.dnr.mo.gov

Mr. Michael Leavitt, Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
Attention Docket ID No. OAR-2002-0056

RE: "Proposed National Emission Standards for Hazardous Air Pollutants; and, in the Alternative, Proposed Standards of Performance for New and Existing Stationary Sources: Electric Utility Steam Generating Units; Proposed Rule" and "Supplemental Notice for the Proposed National Emission Standards for Hazardous Air Pollutants; and, in the Alternative, Proposed Standards of Performance for New and Existing Stationary Sources: Electric Utility Steam Generating Units"

Dear Mr. Leavitt:

The Missouri Department of Natural Resources thanks you for the opportunity to provide comments on the proposed standard for the control of mercury published in the January 30, 2004, *Federal Register (69 FR 4652)*, and the supplemental notice for control of mercury published in the March 16, 2004, *Federal Register (69 FR 12398)*.

We strongly object to the U.S. Environmental Protection Agency (EPA) proposal that disregards the Maximum Achievable Control Technology (MACT) rule (Section 112 of the Clean Air Act) as the framework for the mercury control rule. It is inconsistent with EPA's December 20, 2000 (65 FR 79825) finding and does not adequately protect public health and the environment. We generally support market-based approaches such as cap and trade schemes, yet we have an equally strong objection to the exclusive use of cap and trade schemes where local emission "hot spots" are a concern. While mercury pollution and emissions are widespread, indeed global, problems we share the concern of many states that EPA's proposed rule understates the need for local controls as well. We

understand that EPA has recently suggested some type of "hybrid approach" that combines the efficiency of a cap and trade scheme, with the protection of a MACT regime. If a hybrid approach is to be pursued, we urge EPA to abandon the multi-tiered emission limit MACT approach that allows utilities to switch coal type in order to escape control. Instead, coal specific controls should be required under the MACT schedule with additional reductions obtained via cap and trade. That would eliminate "hot spot" concerns and allow utilities some flexibility in determining the most efficient method for achieving additional reductions.

Thank you for giving us the opportunity to submit comments on these two recent proposals for a national control strategy for mercury emissions from electric utility steam generating units (69 FR 4652 and 12398). We would like to conclude with one additional, process-related comment. We are aware of the public outcry that occurred because the collaborative Federal Advisory Committee Act Process was short-circuited. We, too, share the view that EPA needs to take note of this outcry and ensure the states are given ample opportunity to participate in the process of any future rulemaking.

Enclosed are general comments (enclosure 1) and response to solicited comments (enclosure 2). We hope you will carefully consider these documents as you revise the mercury control regulation on an accelerated schedule.

We look forward to collaboration with EPA in this effort. If you have any questions you may contact Leanne Tippett Mosby with the Air Pollution Control Program at P.O. Box 176, Jefferson City, MO 65102 or by phone at (573) 751-4817.

Sincerely,

DEPARTMENT OF NATURAL RESOURCES

Original signed by Stephen Mahfood

Stephen Mahfood
Director

SM:dcs

Enclosures

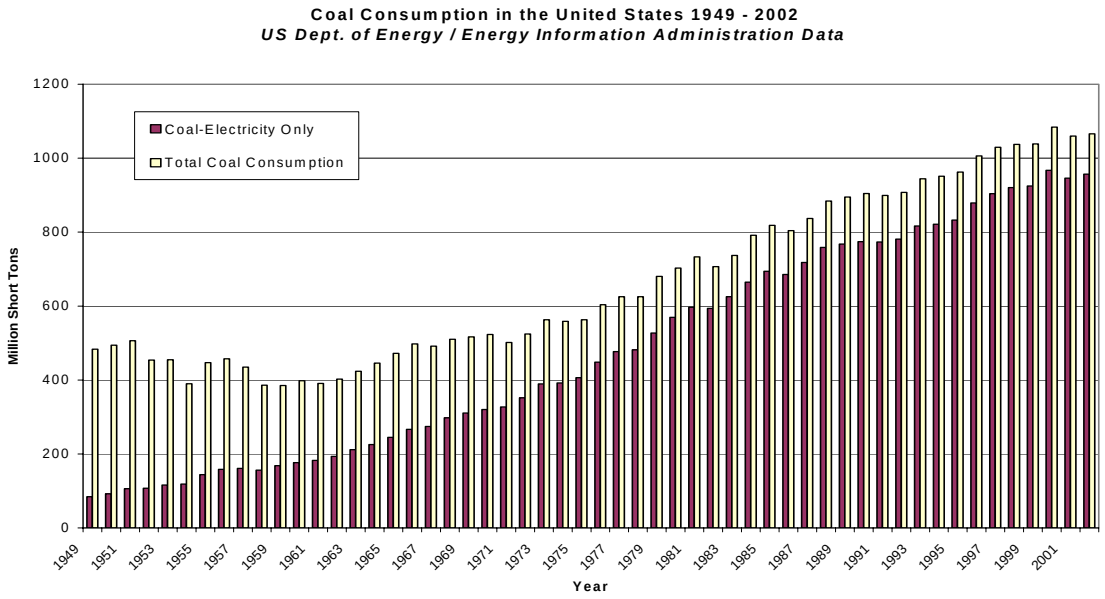
c: EPA Air Docket
Mr. James Gulliford, Regional Administrator, U.S. EPA, Region VII

Enclosure 1. General Comments

The control of mercury from electric utility steam generating units is a complex issue. For some coal-fired power plants, new technology will be essential. No single pollution control system on the market today reduces mercury emissions uniformly across the full spectrum of power plant configurations. However, yet specific controls have been identified that are effective in controlling specific mercury emissions. Particulate-bound mercury can be removed with greater than 99 percent efficiency by Particulate Matter (PM) controls. Bituminous coal produces the most particulate bound mercury of any of the coal types. However, as demonstrated by EPA's two proposed mercury regulations, mercury control effectiveness is substantially lower when only those controls that provide co-benefit are installed.

The nation's electric utilities are the largest unregulated industrial source of mercury in the country. The 50 tons of mercury they release into the air annually amount to roughly 40 percent of total U.S. industrial mercury emissions. In Missouri an even higher proportion, 1.5 tons or 64 percent of total Hg, is emitted by power plants. This is due to this state's heavy reliance on coal combustion, and the advanced age of its power plants. The newest of Missouri's coal burning power plants facility began operation in 1985. Altogether, three power generators began operation in the 1980's, six in the 1970's, four in the 1960's, six in the 1950's, and one in the 1940's. While the number of power plant population has remained constant for nearly 20 years, the quantity of coal consumed therein has steadily increased.

Coal combustion at electric utilities in the United States has risen tenfold since 1950, and doubled since 1975. Rising mercury emissions are inherent in the increasing use of coal at older power plants, without the concomitant installation of new emission controls. Projections for the next 50 years forecast that, at the present rate, the United States combustion of coal is expected to increase 300 percent, while world consumption will increase 500 percent.



We recognize, however, that controlling mercury emissions from power plants in the United States and in Missouri will address only a relatively small part of the overall problem. Nonetheless, we are concerned that focusing solely on this global perspective may obscure the problem of local deposition.

Numbers provided by the Electric Power Research Institute (EPRI) estimate that U.S. industrial sources contribute 155 tons per year (tpy), compared to Asian sources that contribute over 1200 tpy to the global mercury emission total of 2500 tpy. This same report indicates that 20 percent of mercury emissions are deposited in local proximity to their source. This 20 percent has limited dispersion, causing concerns for development of "hot spots." The attached map (attachment 1 - EPRI TEAM Model: Simulated Wet Deposition of Mercury Due to All Emission Sources) indicates the majority of these hot spots are located east of the Mississippi River, downwind of midwestern coal-fired power plants and along the west-coast. Another attached EPRI map (attachment 2 - How much mercury depositing in the United States originates outside the country?) shows locations west of the Mississippi River receive less total mercury deposition, but a higher total from sources outside of the United States. Clearly, reductions coming from electric utility steam-generating units on a global basis would have a greater benefit. Though the multi-pollutant strategy proposed by the U.S. Environmental Protection Agency (EPA) addresses the national portion of mercury emissions, it cannot reduce mercury emissions from sources beyond our national border. To control sources outside our borders would take a global approach.

This leaves as the most viable option a strong Maximum Achievable Control Technology (MACT) standard. This option was examined by the EPA's Federal Advisory Committee Act (FACA) workgroup before it was disbanded. The MACT control would reduce emissions from each source, but allow for future economic growth. Therefore, it does not stifle future growth in pursuit of significant reductions. In order to have an effective national control strategy for the control of mercury emissions from electric utility steam generating units, it is strongly urged that specific mercury controls be required according to coal type and installed according to the MACT schedule.

Enclosure 2. Response to Solicited Comments

A. Proposed Rule

1. Mercury control based upon Section 111 vs. 112

On December 20, 2000 (65 FR 79825), the EPA added coal and oil fired utility units to the source category list 112(c). The coal and oil fired utility units are also included in the list of industrial categories in section 111 of the Clean Air Act (CAA). Section 112(c)(1) requires the Administrator to, "……publish,……., a list of all categories and subcategories of major sources…….of the air pollutants listed pursuant to subsection 112(b). To the extent practicable, the categories and subcategories listed under this subsection shall be consistent with the list of sources established pursuant to section 111…"

While the CAA gives EPA authority to periodically review the list of industrial sources (no less frequently than every 8 years), it does not seem to give the authority to remove an industrial source from one section of the CAA and not another (Essentially, the above paragraph implies that when an industrial category is placed in section 111 of CAA it has also been placed in section 112 of CAA. Concurrently, Section 112(d) states "The Administrator shall promulgate regulations establishing emission standards for each category and subcategory of major sources and area sources of hazardous air pollutants listed for regulation pursuant to subsection (c)." It is clear that placing an industrial category in section 111 of CAA obligates the EPA to put it in section 112 of CAA. Section 112(d) of the CAA obligates EPA to create MACT for the sources listed under 112(c).

Based on the December 20, 2000 (65 FR 79825) findings, EPA stated that it was "appropriate and necessary" to regulate Hazardous Air Pollutants (HAP) emissions from coal and oil fired electric utility steam-generating units. The findings focused on public health hazards associated with mercury and the availability of control strategies for certain HAPs. Finally, EPA stated that it was necessary to regulate HAP emissions from coal and oil fired electric utility steam generating units because "… the implementation of other requirements under the CAA will not adequately address the serious public health and environmental hazards arising from such emissions."

The EPA seeks comments regarding the appropriateness of retracting the December 20, 2000 finding. The language of section 112(n)(1)(a) supports the conclusion that Congress intended for EPA to use the provisions of section 112 to regulate the hazardous air pollutant emissions of electric utility steam-generating units because within section 112(n)(1)(a) is the statement "The Administrator shall regulate electric utility steam generating units under **this section** (bolded for

emphasis) if the Administrator finds such regulation is appropriate and necessary after considering the results of the study required by this subparagraph."

Because this statement is found deeply embedded within the text of section 112, it seems clear that it was Congress' intent for EPA to use the provisions of section 112 to regulate the hazardous air pollutant emissions of electric utility steam-generating units. The publication of EPA's appropriate and necessary findings (65 FR 79825) received few, if any critical comments, and directs EPA to develop MACT standards as section 112(d) of the CAA requires.

2. Residual Risk

In section 112(f), Congress requires EPA to evaluate and address the remaining human health risks attributable to hazardous air pollutant emissions eight years after the application of MACT standards. This Residual Risk Program ensures the continued and improved protection of human health. The section 111 provisions with an undefined evaluation of mercury emissions remaining after compliance with the cap-and-trade requirements would circumvent the section 112(f) provisions. With the absence of regulatory requirements placing accountability and responsibility on both the EPA and electric utility steam-generating units, Congress' intention to protect human health and the environment may not be fulfilled.

EPA proposed not to apply the provisions of section 112 to electric utility steam-generating units based on the belief that once owners and operators install maximum achievable control technology, they will have little incentive to develop more effective technologies. Eight years after installation of this control technology, EPA will apply the requirements of the Residual Risk Program to these units. If EPA's evaluation of the hazardous air pollutant emissions from these units shows these emissions pose an unacceptable risk to human health, then EPA may place heavier regulatory burdens on owners and operators.

Such regulatory burdens may be to comply with tighter emission limits, more stringent initial and continuous compliance demonstrations, or stricter recordkeeping and reporting requirements. However, the possibility of having stricter regulatory burdens imposed as a result of the Residual Risk Program should constitute an incentive for owners and operators to develop more effective technologies after installation of maximum achievable control technology.

3. Hot Spots

The EPA proposed not to apply the provisions of section 112 as a national control strategy for mercury emissions from electric utility steam-generating units because of the anticipated absence of local or regional hot spots. EPA based this

expectation for the proposed section 111 and cap-and trade program on the anticipated 70 percent emission reduction in the proposed section 111 rule and its experience with the Acid Rain Program's cap-and-trade systems. Several EPA analyses of Acid Rain Program trading did not show the production of any local hot spots. For this reason, EPA does not anticipate a national mercury trading program will produce any local hot spots. EPA should provide evidence to support its prediction. For example, EPA should provide a description or discussion of the air dispersion computer models, assumptions, and default values used in this prediction. All states affected by this proposed regulation should also have the opportunity to review the modeling runs of the large, medium and small coal-fired utility units used to determine the local deposition footprints. The review should include a check of the default values and assumptions for the percent of mercury in coal, the control devices used, the EPA control efficiencies of these devices, and the mercury composition of the emissions released which EPA used in these modeling runs. For a decision of such national importance, the methodology EPA used to arrive at its prediction should be made clear to the states.

Additionally, in EPA's appropriate and necessary findings (65 FR 79825) that have been proposed for rescission, EPA found that available science supported public health and environmental concerns about hot spots in relation to a mercury cap and trade program. The proposal to rescind the appropriate and necessary findings is legal in nature, but does not address their scientifically based conclusions. EPA should address these conclusions relating to localized health and environmental impacts of a mercury cap and trade program prior to rescinding the appropriate and necessary findings.

4. Timeline

There is a great concern that the deadlines in the Section 111 proposal are extremely protracted, even when considering the additional amount of control versus the 112 MACT limit. While the settlement agreement under which EPA is operating calls for a final utility standard for hazardous air pollutant to be issued by 2007, EPA's proposal postpones final compliance until 2018 and, in fact, would allow compliance to be delayed until many years later with banking and trading. This uncertainty is problematic for states attempting to promulgate the accompanying state rulemakings or "SIP like procedure" required under this proposal.

5. Level of Control - MACT

EPA's proposed MACT for Mercury emissions from Electric Utility Units did not examine air pollution controls designed to control mercury. Instead, it opted for testing units with existing controls (i.e. electrostatic precipitators or baghouses) and analyzing these control units for efficiency of mercury control by co-benefit.

Although each of the tested pollution controls showed some effectiveness in controlling mercury, in most cases their mercury control efficiency was poor and incidental. It would have been more appropriate for mercury emission limits to be set below the MACT floor values to account for problems with co-benefit mercury control schemes and to acknowledge that mercury control was never a priority for most, if not all, utilities. Such an approach would assure much higher reduction in mercury emissions than those outlined in the proposed regulation.

The table below shows the results of an analysis of Missouri sources. The estimate of the mercury MACT limit takes coal mix into account and uses an emissions rate of 5.8 pounds per TBtu for subbituminous and 2.0 pounds per TBtu for bituminous. The coal mix is based on Electric Information Administration Form (EIA)-423 data for Missouri utility purchases of coal for electric generation in 2002. Emissions totals are taken from EPA's eGRID website. Information on the air quality attributes of almost all the electric power generated in the United States is available from this website.

	eGRID Mercury Emissions (pounds)	Percent Subbituminous Coal	MACT mercury limit	eGRID Mercury Emission Rate (lb/TBtu)
Asbury	48.761	100%	78.733	3.6
Blue Valley	18.592	61%	15.443	5.2
Chamois	8.159	46%	20.717	1.5
Iatan	162.843	100%	240.244	3.9
James River	67.322	87%	103.888	3.4
Labadie	737.009	100%	908.434	4.7
Lake Road	11.327	59%	21.864	2.2
Meremec	121.847	92%	212.34	3.2
Montrose	106.159	100%	211.177	2.9
New Madrid	279.992	100%	475.732	3.4
Rush Island	548.862	100%	467.647	6.8
Sibley	116.064	59%	143.603	3.4
Sikestone	84.025	100%	119.272	4.1
Sioux	203.225	77%	259.117	3.9
Southwest Power	46.282	100%	90.034	3.0
Thomas Hill	262.158	100%	522.405	2.9
			Missouri Average	**4.0**
			Missouri Top 5 Average	**2.5**

The Missouri source calculations indicate that the proposed MACT emission limitation for existing subbituminous coal-fired units is too lenient. This leniency

was likely caused by a sampling error resulting from basing the determinations on a sample population too small to be representative of the norm. In this case, the sample size of 32 units used to determine the floor greatly increased the likelihood of sampling errors.

At a minimum, the MACT floor for existing sources cannot be less stringent than the average of **all** existing sources. Yet using the emissions data from the eGRID site for the state of Missouri, 15 of 16 coal-fired utilities already meet the proposed MACT limit. This data confirms that varying the sample can significantly change the result.

B. Supplemental Notice

1. Cap and Trade Safety Valve Purchase

EPA's proposal to allow utilities to purchase mercury allowances against future year's emissions defeats the cap and eliminates a hard limit. This makes the proposed cap and trade rule dubious as a "Standard of Performance." The cost of $2187.50/oz for "safety valve" allowances equates to $35,000/Lb of mercury. The Department of Energy estimates control costs in the range of $50,000 to $70,000 per Lb. It is an economic benefit to coal fired utilities **NOT** to install controls and simply purchase additional allowances. EPA's supplemental notice does not address how purchases against the cap would be handled (first request, greatest need, permanent allowance retirement, etc). In theory, one utility could purchase the entire next year's allotment, bank the surplus, and sell to competing utilities at a rate greater than the safety valve price. Yet only affected units are eligible to purchase allowances. A more effective solution would make all allowances available for permanent retirement at the "safety valve" price. That would reduce the amount of mercury entering the environment and encourage coal fired utilities to install effective controls.

2. State Allocation of Allowances vs. State "No Stricter Than" Requirements

EPA has solicited comment on whether to require the State to allocate allowances to each affected Utility Unit in accordance with the model cap and trade rule. The supplemental notice proposes that the state may allocate allowances in accordance with its own methodology. We support the flexibility not to follow EPA's allotment methodology if it is determined not to be stringent enough to protect the health for Missouri's citizens. Many states, Missouri included are limited in their rulemaking authority to be no stricter than federal standards. There is concern that these provisions may limit the effectiveness of implementing an alternative allowance allocation.